

Appl. No. 10/080,862

REMARKS

Claims 1-12 are pending in this application. Claim 1 has been amended to specify that the olefin content of the gasoline fuel composition is between 7 and 40 vol. %. Support for the claim amendment may be found on page 6, lines 19-20 and at page 3, line 15. No new matter has been added.

1. Rejections under 35 U.S.C. §103(a)

Claims 1-12 have been rejected under 35 U.S.C. §103(a) as unpatentable over Scott et al. in view of Trotta et al. and WO 01/60955 A1. The Examiner argues that Scott et al. teaches a method of making a summer low-emission gasoline fuel which contains ethanol, complies with the California Code of Regulations and meets all the limitations of the claims (see Table 4, pages 6-8 of Scott) with the exception that the content of the trimethylpentenes, trimethylhexenes and trimethylheptenes in the fuel composition is not taught/disclosed. The Examiner cites to Trotta et al. for teaching that the content of olefins, particularly light olefins, should be reduced and the use of high-octane hydrocarbon components derived from the selective oligomerization of isobutene has a synergistic effect with that of some low-boiling and high-octane components such as ethanol. Trotta is also cited for teaching a gasoline having a RON octane number equal to or higher than 90 and a MON octane number equal to or higher than 80 having a boiling point ranging from 30 to 220 degrees Celsius, one or more compounds deriving from the selective oligomerization of isobutene and optionally ethanol. Finally, the Examiner cites to WO 01/60955 A1 for teaching a fuel composition comprising a base fuel with a final boiling point greater than 150 degrees Celsius and an anti-foam. The Examiner argues that it would obvious to add a dimmer of isobutene as taught by Trotta and WO '955 to a fuel composition as taught by Scott et al. in order to improve the anti-foam or octane properties of the fuel composition. Applicant respectfully traverses.

The present invention is directed to a gasoline fuel composition that meets exhaust gas regulations while being essentially free of MTBE, a compound that has fallen out of favor due to its environmentally harmful effects. In the present invention, the harmful MTBE has been replaced with olefins in such a way that the ratio of environmentally harmful light olefins to

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heavy olefins has been restricted. Thus, it is not necessary to use ethanol or an anti-foam to improve octane properties. The present invention is, therefore, clearly distinguishable from the Scott, Trotta or WO '955 references, either singly or in combination.

The presently claimed invention has three important limitations: (1) the overall concentration of the olefins is between 7 to 40 vol.%; (2) the concentration of light olefins is less than 6 vol. % and (3) the combined content of heavy olefins, specifically branched olefins of trimethylpentene, trimethylhexene and trimethylheptene, is greater than 1 vol%. The Examiner references cited by the Examiner fail to teach each and every one of these limitations. As noted by the Examiner, the Scott reference allegedly teaches all of the claim limitations except that it fails to disclose or teach the combined content of heavy olefins, specifically branched olefins of trimethylpentene, trimethylhexene and trimethylheptene present in the composition. The Examiner has failed to identify any other reference which teaches this limitation but goes on to argue that skilled artisan would be motivated to modify Scott by adding a dimer of isobutene or an anti-foam in order to improve the fuel compositions of the Scott composition. Even if one assumes that the modified Scott composition would meet all the limitations of the claims, Applicant submits that the skilled artisan would not be motivated to combine the references in the manner suggested by the Examiner for the following reasons.

While the Trotta reference teaches that the content of the olefins (mainly the light olefins) should be reduced and that the selective oligomerization of isobutene has a synergistic effect with ethanol, Trotta does not disclose or suggest the essential feature of the invention, namely the limitation that a maximum concentration of light olefins be used in combination with at least a minimum concentration of heavy olefins results in low emission rates and the reduction of fuel consumption (see page 4, para. 2). There is simply no recognition in the Trotta reference that the content of light olefins should be maintained at less than 6% by volume or that the overall concentration of the olefins should be between 7 to 40% volume to achieve these properties. The other references cited by the Examiner similarly fail to recognize the importance of maintaining a specific ratio between the light olefins and the heavy olefins in the gasoline fuel composition.

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It should be emphasized that the present invention is designed to provide a gasoline fuel composition that does not include MTBE, not to provide a composition with improved anti-foaming or octane properties as suggested by the examiner. Unlike Trotta, which describes the beneficial effects achieved when ethanol is used in conjunction with a high-octane hydrocarbon component derived from the selective oligomerization of isobutene, the present invention does not require the inclusion of ethanol to obtain the desired properties of the exhaust gas. Similarly, the present invention does not rely or require the inclusion of an anti-foam agent to improve the properties of the fuel composition. Applicant, therefore, submits that a person of ordinary skill in the art would not be motivated to modify the Scott composition in the manner suggested by the Examiner. Accordingly, reconsideration and removal of the rejection is respectfully requested.

Favorable consideration and early allowance of all the claims is requested.

Pursuant to the provisions of 37 C.F.R. § 1.17 and 1.136(a), Applicant hereby petition for an extension of two (2) months to March 28, 2004 for the period in which to file a response to the Office Action dated October 28, 2003.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Leonard R. Svensson (Reg. No. 30,330) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

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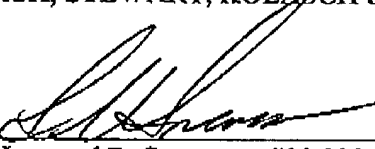
If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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